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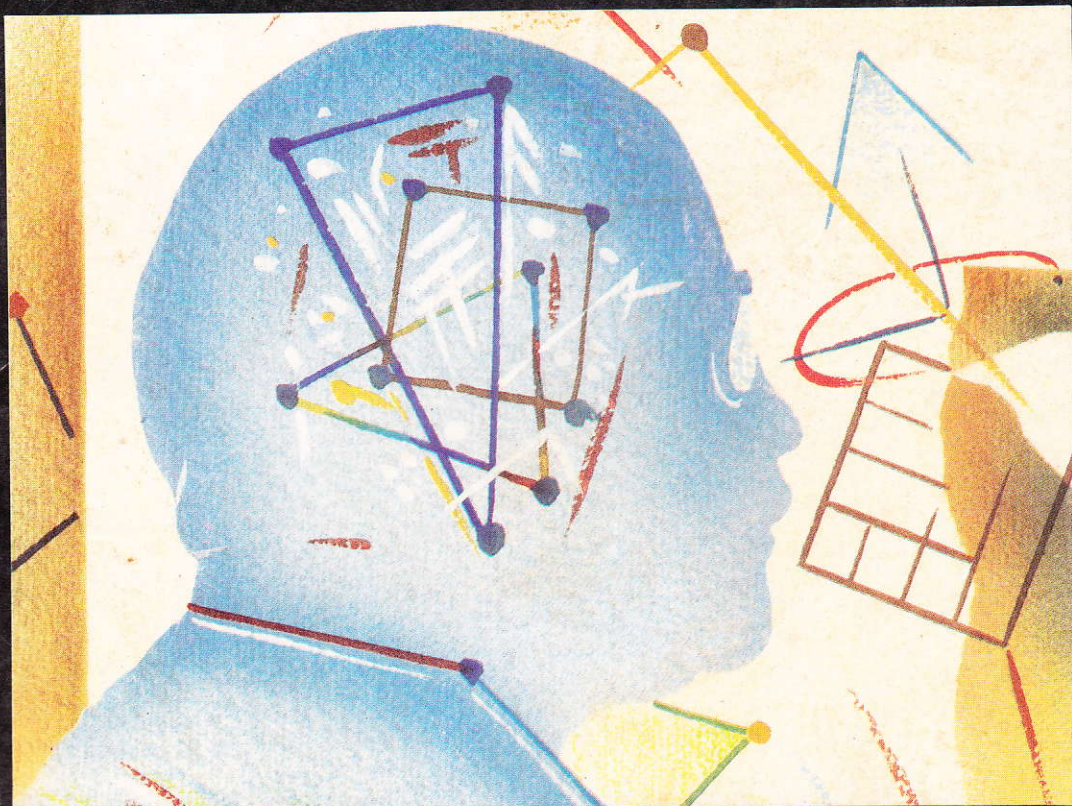
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Directory Search Utility For IBM-PC

S. Narasimhan

Once when I was working with a PC-XT, a particular sub-directory appeared to be empty in the directory listing and I wanted to delete it. But when an attempt was made to delete the sub-directory using the RMDIR command, DOS issued error message implying that the directory is not empty. It turned out that the directory had certain hidden files, making it impossible to delete it.

In such a situation the user would like to know the names of all hidden/system files so that these can be made 'normal' and deleted. For this one needs sophisticated tools or utilities.

For the benefit of the readers having no such tools, a program written in Basica is presented here. This program when correctly entered and run will create the program file FASEARCH.COM written by the author of this article.

FASEARCH.COM is a utility program which searches the current directory of a disc and lists on the screen all files having any of the four attributes, viz, READONLY, HIDDEN, SYSTEM and NORMAL. It takes its parameters/options from the command line. The format of

FASEARCH command is similar to any other DOS command. Its syntax and usage are explained in this article.

Syntax

[d:] [path] FASEARCH[[/R] [/H] [/S] [/P]

where

1. /R switch searches for Readonly files
- /H switch searches for Hidden files
- /S switch searches for System files
- /P switch pauses after displaying each screenful of entries.
2. As per convention the square brackets indicate items which are optional.
3. 'd' and path are drive letter and the path where FASEARCH is located.
4. When more than one attribute is specified, only those files having all the specified attributes will be displayed simultaneously.
5. When no attribute is specified in command line, search will be made for default attribute, viz, NORMAL files.
6. It is to be noted that FASEARCH is case sensitive. Hence the parameters are to be entered only in upper case

(capital letters) for desired result.

7. If a parameter other than the ones stated above is specified then a Help Screen will be displayed describing the usage/syntax of this command.

How to use

Change from the current directory to the directory which you want to search and then enter the command with requisite parameters according to the aforesaid syntax to get a display of files found to match the specified attributes. For example, suppose you are presently in the Basic sub-directory along the path \LANG\BASIC, and that you want to search the root directory for Readonly files, and that the utility FASEARCH.COM is in the UTIL sub-directory along the path \UTIL.

First change to root directory using the command CD\ . Then enter the command \UTIL\FASEARCH/R/P. Now you will get a listing of all Readonly files in the root directory.

How FASEARCH works

This utility uses the DOS Search Directory Services-4Eh (first matching entry) and 4Fh (next matching entry) to search for all files in the current directory. Then the attribute of each file is compared with the desired attributes specified on the command line. If these match, the filename is displayed.

If they don't match the program will look for the entry in the directory. This process is repeated till the attributes of all the files in the directory have been tested.

THE PROGRAM

```
10 REM PROGRAM TO CREATE FASEARCH.COM
20 CLS : PRINT "Creating FASEARCH.COM"
30 OPEN "R",#1,"FASEARCH.COM",1
40 FIELD #1, 1 AS A$
50 FOR I = 1 TO 69
60 LINESUM# = 0 : LOCATE 2,3 : PRINT "Countdown...":69-I:
70 FOR J = 1 TO 20
80 READ BYT$ : BYT = VAL("&H"+BYT$)
90 LINESUM# = LINESUM# + BYT
100 IF BYT < 256 THEN LSET A$ = CHR$(BYT) : PUT #1
110 NEXT J
120 READ LINETOT$ : LINECHECK# = VAL("&H"+LINETOT$)
```

Contd

```

130 IF LINECHECK# = LINESUM# THEN 150
140 LOCATE 4,2 : PRINT "ERROR IN LINE# ";190+10*I : GOTO 190
150 NEXT I
160 CLOSE
180 PRINT : PRINT "FASEARCH.COM CREATED SUCCESSFULLY" : SYSTEM
190 PRINT : PRINT "FASEARCH.COM IS NOT VALID" : END
200 DATA 0,EB,39,0,72,32,EB,A4,0,B6,18,30,D2,EB,A5,0,BA,9B,3,EB,B1,99F
210 DATA 0,EB,3A,1,30,D2,B6,1,EB,95,0,BA,AB,3,EB,A1,0,EB,64,1,894
220 DATA 0,EB,5,2,B6,17,30,D2,EB,B2,0,EB,DF,0,EB,3,EB,29,2,CD,20,BDD
230 DATA 50,53,51,56,FC,BE,80,0,AC,8,C0,74,36,88,C1,30,ED,30,E4,AC,9CB
240 DATA 3C,20,74,29,3C,2F,75,4,B4,1,EB,21,BB,90,3,80,3F,0,90,90,6CB
250 DATA 74,14,3A,7,74,4,43,43,EB,F1,8,E4,74,8,30,E4,43,C6,7,1,730
260 DATA EB,3,F9,EB,2A,E2,D0,BB,90,3,8A,47,1,90,8A,67,3,90,D0,E4,A96
270 DATA 0,E0,8A,67,5,90,D0,E4,D0,E4,0,E0,A2,99,3,90,90,8A,47,7,9E4
280 DATA 90,A2,9A,3,90,90,F8,5E,59,5B,58,C3,51,31,C9,EB,2C,0,59,C3,98F
290 DATA 50,53,87,0,B4,2,CD,10,5B,58,C3,50,B4,2,CD,21,58,C3,50,52,814
300 DATA 56,9C,FC,89,D6,AC,8,C0,74,7,88,C2,EB,EB,FF,EB,F4,9D,5E,5A,C89
310 DATA 58,C3,50,53,52,30,C0,B6,18,B2,4F,B7,7,B4,6,CD,10,5A,5B,58,831
320 DATA C3,50,51,52,56,89,D0,BE,A,0,31,C9,31,D2,F7,F6,52,41,9,C0,973
330 DATA 75,F6,5A,80,C2,30,EB,82,FF,E2,F7,5E,5A,59,58,C3,52,8B,16,DB,BA0
340 DATA 3,EB,D5,FF,B2,20,EB,9E,FF,BA,FB,3,EB,9F,FF,5A,C3,43,80,3F,C73
350 DATA 0,90,90,74,2,EB,64,43,C3,53,52,80,3F,0,90,90,74,11,3A,27,7E7
360 DATA 90,90,74,5,EB,E2,FF,EB,EE,43,89,DA,EB,77,FF,5A,5B,C3,50,53,C5A
370 DATA 51,8A,26,99,3,8,E4,74,1C,B1,1,8A,26,99,3,80,F9,2,74,7,70D
380 DATA 72,A,80,E4,4,EB,C,80,E4,2,EB,7,80,E4,1,EB,2,B4,9,BB,8FD
390 DATA B4,3,EB,B4,FF,FE,C1,80,F9,3,76,D7,59,5B,58,C3,50,52,56,B4,855
400 DATA 19,CD,21,88,C2,80,C2,41,EB,24,FF,B2,3A,EB,1F,FF,B2,5C,EB,1A,AE1
410 DATA FF,B4,47,30,D2,BE,F0,5,CD,21,89,F2,EB,13,FF,5E,5A,58,C3,50,B35
420 DATA 52,B6,18,30,D2,EB,F4,FE,BA,DF,3,EB,0,FF,B4,8,CD,21,5A,58,ADB
430 DATA C3,50,51,52,8A,16,DA,3,B1,2,D2,E2,8B,D0,D2,E2,0,C2,80,C2,AAA
440 DATA 9,8A,36,D7,3,80,C6,3,80,FE,16,76,18,0A,9A,3,90,8,C0,74,817
450 DATA 3,EB,BF,FF,B9,0,3,EB,E0,FE,C6,6,D7,3,0,B6,3,EB,AC,FE,B1C
460 DATA BA,4E,6,EB,B8,FE,A1,DB,3,90,40,A3,DB,3,90,90,FE,6,DA,3,A77
470 DATA 80,3E,DA,3,3,75,9,FE,6,D7,3,C6,6,DA,3,0,5A,59,5B,C3,771
480 DATA 50,51,52,9C,B4,1A,BA,30,6,CD,21,B4,4E,BA,DB,3,B9,6,0,CD,861
490 DATA 21,72,17,8A,26,45,6,80,E4,7,3A,26,99,3,90,75,3,EB,75,FF,770
500 DATA B4,4F,CD,21,EB,E7,9D,5A,59,58,C3,50,52,56,9C,FC,EB,41,FE,BE,BA3
510 DATA B,4,AC,3C,5B,74,16,88,C6,AC,88,C2,EB,39,FE,AC,8,C0,74,7,92B
520 DATA 88,C2,EB,3A,FE,EB,F4,EB,E5,9D,5E,5A,58,C3,0,0,52,0,48,0,A23
530 DATA 53,0,50,0,0,0,0,41,54,54,52,49,42,55,54,45,53,3A,20,0,404
540 DATA 44,49,52,45,43,54,4F,52,59,3A,20,0,1,52,45,41,44,4F,4E,4C,515
550 DATA 59,0,2,48,49,44,44,45,4E,0,4,53,59,53,54,45,4D,0,9,4E,447
560 DATA 4F,52,4D,41,4C,0,0,0,0,0,2A,2E,2A,0,53,74,72,69,68,407
570 DATA 65,20,61,20,68,65,79,20,74,6F,20,63,6F,6E,74,69,6E,75,65,2E,705
580 DATA 2E,2E,0,20,46,69,6C,65,73,20,46,6F,75,6E,64,21,0,0,0,1,4AD
590 DATA 20,46,20,41,20,53,20,45,20,41,20,52,20,43,20,48,0,3,26,42,3AB
600 DATA 20,59,0,5,21,53,2E,4E,41,52,41,53,49,4D,48,41,4E,0,7,0,409
610 DATA 55,74,69,6C,69,74,79,20,74,6F,20,73,65,61,72,63,68,20,63,75,785
620 DATA 72,72,65,6E,74,20,64,69,72,65,63,74,6F,72,79,20,6F,66,20,61,796
630 DATA 20,64,69,73,68,20,61,6E,64,0,8,0,6C,69,73,74,20,61,6C,6C,63B
640 DATA 20,66,69,6C,65,73,20,68,61,76,69,6E,67,20,61,20,73,70,65,63,71C
650 DATA 69,66,69,65,64,20,61,74,74,72,69,62,75,74,65,2E,0,A,0,55,682
660 DATA 73,61,67,65,3A,9,9,46,41,53,45,41,52,43,48,20,3C,53,77,69,588
670 DATA 74,63,68,3E,0,D,0,3C,53,77,69,74,63,68,3E,4F,70,74,69,6F,681
680 DATA 6E,73,20,5B,41,6E,79,20,6F,66,20,74,68,65,20,66,6F,6C,6C,6F,716
690 DATA 77,69,6E,67,20,69,6E,20,61,6E,79,20,63,6F,6D,62,69,6E,61,74,781
700 DATA 69,6F,6E,5D,0,F,9,2F,52,20,2D,20,53,65,61,72,63,68,20,66,585
710 DATA 6F,72,20,52,45,41,44,4F,4E,4C,59,20,66,69,6C,65,73,0,10,9,5AB
720 DATA 2F,48,20,2D,20,53,65,61,72,63,68,20,66,6F,72,20,48,49,44,44,5DA
730 DATA 45,4E,20,66,69,6C,65,73,0,11,9,2F,53,20,2D,20,53,65,61,72,55A
740 DATA 63,68,20,66,6F,72,20,53,59,53,54,45,4D,20,66,69,6C,65,73,0,66A
750 DATA 12,9,2F,50,20,2D,20,50,61,75,73,65,20,61,66,74,65,72,20,70,5C7
760 DATA 72,69,6E,74,69,6E,67,20,65,61,63,68,20,73,63,72,65,65,6E,6E,7B2
770 DATA 75,6C,0,13,9,41,6E,79,20,4F,74,68,65,72,20,53,77,69,74,63,671
780 DATA 68,20,2D,20,77,69,6C,6C,20,64,69,73,70,6C,61,79,20,74,68,65,704
790 DATA 20,70,72,65,73,65,6E,74,20,48,45,4C,50,20,53,63,72,65,65,6E,6EA
800 DATA 0,15,0,54,68,65,20,64,65,66,61,75,6C,74,20,6F,70,74,69,6F,686
810 DATA 6E,20,66,6F,72,20,73,65,61,72,63,68,20,69,73,20,66,6F,72,20,6EE
820 DATA 4E,4F,52,4D,41,4C,20,66,69,6C,65,73,0,58,0,0,0,0,0,0,454
830 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
840 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
850 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
860 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
870 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
880 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

```

Caution

The readers who intend to have this utility are strongly advised to carefully enter the DATA statements of the Basic program listing and are urged to double check that they have entered the lines exactly as per the listing, and that no lines have been missed before running the same. This precaution is necessary as the DATA statements contain the actual machine code instructions for the FASEARCH utility and an incorrectly created program file may cause the system to hang necessitating its re-booting.

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